

Claims

What is claimed is:

1. A polynucleotide molecule comprising at least one gene of interest, and at least one selectable marker gene, wherein said at least one selectable marker gene comprises a nucleotide sequence selected from the group consisting of:
 - (a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments thereof; or a complement of said nucleotide sequence; and
 - (b) a nucleotide sequence which selectively hybridizes under stringent conditions to a nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof.
2. The polynucleotide molecule of claim 1, wherein said polynucleotide is operably linked to a promoter.
3. Transgenic cells transformed with a gene of interest and the polynucleotide molecule of claim 1, wherein the selectable marker gene gives said cells a selective advantage when a population of cells including the transformed cells and nontransformed cells is supplied with a marker compound.
4. The transgenic cells of claim 3 wherein said marker compound is arabinol, ribitol, mannitol or a derivative thereof.
5. The transgenic cells of claim 3, wherein said transgenic cells comprise bacteria, fungi, yeast, plant or a combination thereof.
6. A Plant or plant tissue regenerated from the cells of claim 3.
7. A method of selecting transformed cells from a population of cells comprising

2 a) introducing into the genome of a cell a gene of interest and a selectable marker gene;

3 b) obtaining transformed cells;

4 c) supplying to the population of cells a marker compound wherein said transformed cells
5 have a selective advantage over non-transformed cells due to expression or transcription of the
6 gene of interest or the selectable marker gene in the presence of the marker compound; and

7 d) selecting said transformed cells from the population of cells;

8 wherein said selectable marker gene comprises a nucleotide sequence selected from the group
9 consisting of:

10 (a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments
11 thereof; or a complement of said nucleotide sequence; and

12 (b) a nucleotide sequence which selectively hybridizes under stringent conditions to a
13 nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof;

14 and said marker compound comprises arabitol, ribitol, mannitol or a derivative thereof.

1 8. The method of claim 7, wherein said cells comprise bacteria, fungi, yeast, plant or a
2 combination thereof.

1 9. The method of claim 8, wherein said cells comprise plant cells.

1 10. Transformed cells selected according to the method of claim 7.

1 11. Transformed plants derived from the cells of claim 10.

1 12. Seeds produced from the transformed plants of claim 11, wherein said seeds are capable of
2 germinating to produce transformed plants.

1 13. A polynucleotide molecule comprising a nucleotide sequence selected from the group
2 consisting of:

3 (a) a nucleotide sequence encoding SEQ ID NOS.: 3, 4, or 5, or functional fragments
4 thereof; or a complement of said nucleotide sequence; and

5 (b) a nucleotide sequence which selectively hybridizes under stringent conditions to a
6 nucleotide sequence shown in SEQ ID NOS: 1 or 2, or a complement thereof.

1 14. The polynucleotide molecule of claim 13, wherein said nucleotide sequence comprises SEQ
2 ID NO 1.

1 15. The polynucleotide molecule of claim 13, wherein said nucleotide sequence comprises SEQ
2 ID NO 2.

1 16. A polypeptide molecule comprising SEQ ID NO 3, or functional fragments thereof.

1 17. A polypeptide molecule comprising SEQ ID NO 4, or functional fragments thereof.

1 18. A polypeptide molecule comprising SEQ ID NO 5, or functional fragments thereof.